AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph bridging pages 55 and 56 with the following new paragraph:

The HIV-1 integrase expression constructs were based on the episomal pCEP4 vector (Invitrogen, Groningen, The Netherlands). The plasmid pCEP-INsala is identical to the published pCEP-IN'plasmid (Cherepanov et al., 2000) with the difference that the Gly codon in the second position of the synthetic open reading frame (ORF) was mutated to Ala. As a result, the construct expressed native HIV-1 IN with an addition of Met-Ala dipeptide at the N-terminus. To create the FLAG epitope-tagged IN expression construct pCEP-IN'alaFLAG, the IN synthetic ORF from pCEP-INsala was amplified in two consecutive steps with the sense primer 5'-GGCTAGATATCACTAGCAAC CTCAAACAG (SEQ ID NO : 1) plus two anti-sense primers 5'-GTCGTCCTTGTAATCGCCGTCC TCATCTTGACGAGAG (SEQ ID NO : 2) and 5'-GGCGCTCGAGTTACTTGTCATCGTCGTCCTTGT AATCGC (SEQ ID NO : 3), the resulting PCR fragment was digested with XhoI and cloned between the EcoRI (blunt) and XhoI sites of the pCEP4 vector. This plasmid expressed HIV-1 IN carrying the C-terminal FLAG epitope (DYKDDDDK) (SEQ ID NO : 4). The plasmid pRP1012, for bacterial expression of Hise-tagged HIV-1 IN, was a gift of Dr. R. Plasterk (The Netherlands). To obtain pCP6H75, the plasmid used for bacterial expression of His6-tagged Inip76/LEDGF, the PCR fragment amplified from a HeLa cDNA with the primers 5'-GGCCGGATCCGACTCGCGATTTCAAACCTGGAGAC (SEQ ID NO : 5) and 5'-CCGCGAATTCT AGTTATCTAGTGTAGAATCCTTC (SEQ ID NO : 6) was digested with BamHI and EcoRI and cloned between the BamHI and EcoRI sites of pRSETB (Invitrogen). To prepare the mini-HIV IN substrate, the plasmid pU3U5 (Cherepanov et al., 1999) was digested with ScaI.

Replace the paragraph found on page 61, line 13, with the following new paragraph:

Small interfering RNA molecules (siRNA) were prepared by annealing the following pairs of oligonucleotides: i) CAGCCCUGUCCUUCAGAGA-dTdT (SEQ ID NO : 7) plus UCUCUGAAGGACAGGGCUG-dTdT (SEQ ID NO : 8), to obtain 76A RNA; ii) AGACAGCAUGAGGAAGCGA-dTdT (SEQ ID NO : 9) plus UCGCUUCCUCAUGCUGUCU-dTdT (SEQ ID NO : 10), to obtain 76B RNA; iii) CAGAUGCAUUGAGGCCUUG-dTdT (SEQ ID NO : 11) plus CAAGGCCUCAAUGCAUCUG-dTdT (SEQ ID NO : 12), to obtain 76C RNA; iv) GCGCGCUUUGUAGGAUUCG-dTdT (SEQ ID NO : 13) plus CGAAUCCUACAAAGCGCGC-dTdT (SEQ ID NO : 14), to obtain NC RNA. The 76A, 76B and 76C siRNA molecules are thus designed to be specific for the Inip76 mRNA and contain an anti-sense strand that can hybridize to the target mRNA. The NC molecule is an RNA duplex which is not specific to Inip76 RNA nor to any other known human mRNA.

Replace the paragraph found on page 63, line 11, with the following new paragraph:

The open reading frame of Inip76/LEDGF was PCR amplified from pCP6H75 using the primers 5'-TGACTCGCGATTTCAAACC (SEQ ID NO : 15) and 5'-CCGCGAATTCTAGTTATC TAGTGTAGAATCCTTC (SEQ ID NO : 16). The resulting DNA fragment was digested with EcoRI and subcloned between NdeI (treated with T4 DNA polymerase to obtain blunt terminus) and EcoRI sites of the pRSETB vector (W vitrogen). The complete Inip76 open reading frame and the phage T7 promoter region of the resulting plasmid, pCP-Nat75, was sequenced to confirm that no mutation occurred. The plasmid was transformed into the E. coli PC1 strain (E. coli BL21 (DE3), zend, : : TcR, pLysS) (Cherepanov et al., 1999) by standard methods. The resulting strain, PC2LEDGF expressed Inip76 upon induction with IPTG.

Replace the paragraph bridging pages 63 and 64 with the following new paragraph:

To construct the plasmid for bacterial expression of HIV-1 IN with C-terminal His6 tag, we amplified the full IN open reading frame using PCR with the primers 5'-GCGCG TCGACATTCCTCATCCTGTCTAC (SEQ ID NO : 17) and 5'-AATACGACTCACTATAGGG (SEQ ID NO : 18) from the plNSD plasmid (obtained from The NIH AIDS Research and Reference Reagent Program, catalog #2820). The RCR fragment was digested with NdeI and SalI and subcloned between NdeI and SalI sites of pET-20b (+) (Novagen). The open reading frame of IN as well as the T7 promoter region of the resulting plasmid pKB-IN6H was sequenced to verify absence of mutations. When the plasmid was transformed into PC1 bacteria, it expressed HIV-1 C-terminally His6-tagged IN. However, pKB-IN6H is not able to stably co-exist with pCP-Nat75, as both plasmids have the same type of replication origin. To obtain pKB-A16IN6H, an IN-expression plasmid compatible with pCP-Nat75, we inserted the BglIIIlDraIII fragment of pKB-IN6H between BamHI and BsaI sites of pACYC177 vector (Chang and Cohen, 1978) (available from New England Biolabs) (the DraIII and BsaI ends of the DNA fragments were treated with T4 DNA polymerase to obtain ligatable blunt termini).